

LINGUALISED OCCLUSION IN FITTING ARTIFICIAL TEETH IN TOTAL PROSTHESIS

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ABSTRACT

There are many possibilities for the development of full occlusion of the prosthesis in order to meet aesthetic and functional needs of the patient. Today we can choose artificial teeth that replicate the look, contour and color of natural teeth. In addition, the wide range of morphological forms give proper choice of the type of occlusion each patient. By fitting artificial teeth in occlusal scheme of lingualised occlusion we get stable functional prostheses contributing to physiological comfort of patients and positively influence their satisfaction.

KEYWORDS:

artificial teeth and especially the concept of lingualised occlusion .

INTRODUCTION

Problems of total edentulous treatment and installation methods and techniques take into account the maintenance and stability of dentures during mastication and phonation work hypothesis.

The aim of this scientific work was to examine the stability of prosthesis ,simulating masticatory function and to determine the possible correlation between denture stability and patient satisfaction with dentures.

Denture stability was assessed by clinical examination and data on patient's satisfaction were collected by a questionnaire. According to the results, it can be concluded that the good stability of the prosthesis contributes to the physiological comfort of the patient and has a positive influence patient satisfaction. There are many possibilities for the development of full occlusion of the prosthesis in order to meet aesthetic and functional needs of the patient. Today we can choose artificial teeth that replicate the look, contour and color of natural teeth. In addition, the wide range of shapes give proper choice of the type of occlusion each patient

MATERIALS AND METHODS

The study was carried out on a total of 54 total and subtotal edentulous patients of both sexes, aged between 35 and 82 years. I tried to highlight the advantages of different types of mounting of the

Following the popularity of the concept of the lingualised occlusion many morphological variants have been introduced (SR Ortholingual and SR Orthoplane, Candulor) which have been specially developed in line with the theoretical and technical aspects of this system of occlusion.

Initially these occlusal schemes could only be obtained by mixing different forms of dental occlusal morphology , and after significant adjustments . The speciality literature is full of advice on different forms of posterior teeth , which is mainly based on functional requirements of mastication and stability of the base of the prosthesis. The traditional view says " the flatten the crest is, the more flatten inclination cusps will be".

Unfortunately, because of the multitude of factors that influence the stability of prosthesis, it is difficult to establish an evidence-based on the process for choosing forms of posterior teeth and / or occlusal scheme. Generally previous research efforts on occlusion in total prosthesis can be summarized in the following categories:

- Studies on masticatory efficiency
- Deformation of the base of the prosthesis
- Patient preferences

In 1972 a group of academics, scientists and doctors have been busy looking for an occlusal form and an ideal mounting in removable prosthesis . The results were published under the title "International Workshop of prosthesis on total prosthetic occlusion ".

So far, this is the most admirable work that they faced on this issue. Some quotes well summarize the results: "Currently, the choice of forms of posterior teeth and their joints for a prosthesis is completely an empirical procedure. Research results available do not allow any determination of the shape and assembly better than others. Thus seems logical to choose the easiest method in order to provide the needs of patients. In other words, we should prefer an occlusal scheme that is not complicated, it is simple to understand and learn, as long as they meet the aesthetic and functional needs patient?"

Objectives:

I propose the following objectives:

- highlighting the role of occlusion in total prosthesis stability
- analyze the criteria for the choice of forms of posterior teeth
- determine changes on the prosthetic teeth in order to achieve occlusion in "lingualised contact"
- establish combinations of types of teeth in order to achieve lingualised occlusion

RESULTS AND DISCUSSION

I had the following steps and method of work:

1. Preliminary impression
2. Functional impression (both made by the classical method)
3. Registration of the prosthetic corridor and establish the centric relation of the occlusion
4. Mounting the occlusal teeth principles that were individualized by the dental laboratory
5. The check-out of layouts in the mouth
6. Putting acrylate and completion of total prosthesis
7. Application and adaptation of prosthesis in the mouth

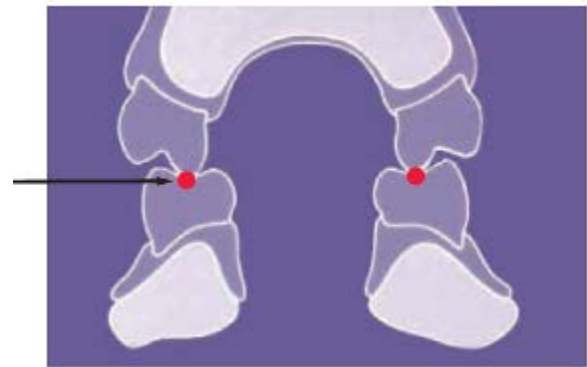
1. Positioning of lower teeth

The lower model offers several anatomical landmarks that can guide us in mounting the prosthetic teeth. The retro molar tubercle, oral raphe (the external oblique line) and the mylohyoid ridge are anatomical features that are easy to recognise. It is advisable to mount first lower jaw teeth. Mounting masticatory sides must respect the units static basic (that would be in the middle of the mandibular alveolar ridge) and inter alveolar line.

2. Positioning the upper teeth

Mounting the upper lateral teeth must take in consideration the palatine upper cusps of the teeth that must meet must meet the lower teeth fossa. In this case we obtain occlusal stops only belonging to the third class without having the first class.

The only contact points in centric relation are the points of the superior palatal cusps and their antagonist contacts with the central fossa of the the proximal ones of the inferior teeth. illustration of mounting of the teeth of upper and lower jaw in centric position. we can notice that the vestibular cusps are not in contact with the lower ones. act points are easy to create and control due to the articulation paper.



ig 1 Occlusal contacts

Rebalancing post-polymerization

Replacing the finished dentures in an articulator will be followed by three phases:

1. Restoring the contacts in centric occlusion
2. Elimination of interference on superior vestibular cusps and / or previous interference
3. Completion of balance by adjusting only the inclined planes of the lower teeth.

Occlusal adjustment must be performed routinely after polymerization, to correct any imperfections in recording joint relations and / or production errors.

The concept of lingualised occlusion

Below are the recommended principles for creating an occlusion "lingualised contact" and its advantages. Upper posterior teeth should present relatively sharp cusp inclinations, preferably 30° or more. The palatine superior cusps occlude with the center of the interior teeth, while the inferior vestibular cusps are eliminated by a gradual growth of the free space, starting from the first premolar to the second molar.

Changing of the prosthetic teeth for the occlusion in "lingualised contact"

1. the contact of the vestibular cusps of the upper jaw are eliminated through selective grinding and / or through raising the position of the vestibular cusps with a vestibulo- rotation of the lateral teeth

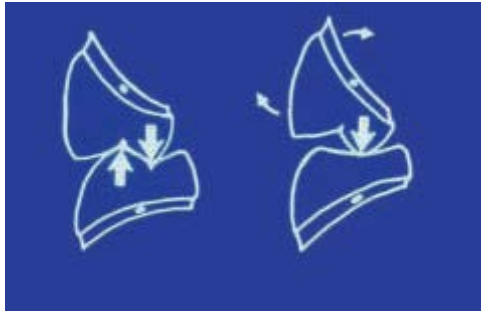


Fig.2 Occlusal contacts

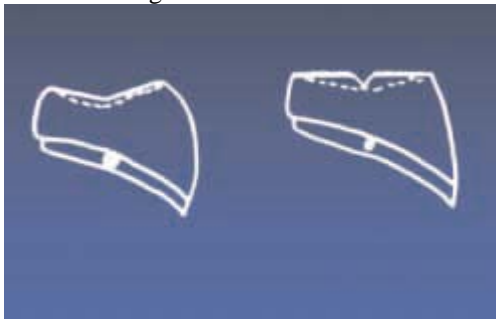


Fig.3 Occlusal contacts

2. Occlusal surfaces of the teeth of the lower jaw are modified by minimal modeling of the marginal ridges and oblique ones. In this way, it creates surface pits with minimum complexity that will receive primary maxillary cusps.

Direction of the forces of mastication

In anatomic occlusion The mandibular vestibular cusps come into contact during masticatory movements with septic receiver jaws.. In this way we generate forces that will require non-physiological occlusal slopes of the residual anatomic ridges, with destabilizing effects. In lingual contact occlusion:

Vestibular cusps contacts are deleted. In this way, the forces generated by the occlusal contacts in the 3rd class during masticatory movements are central downloaded in the middle of the alveolar ridge. This is considered more stable in comparison with the anatomic occlusal system.



Fig. 4 The direction of masticatory forces

Biomechanical advantages of lingualised occlusion

- Occlusal forces are centered on the ridge in centric occlusion.
- Movements during mastication forces are directed more "lingual" on the the ridge.
- This occlusion "mortar and pestle" minimizes the occlusal contact area. Thus, food is perforated in more efficient ways and it creates ways for the food discharge

Is eliminated intercuspitation that often complicates the installation of the anatomical prosthetic teeth. Rarely there are ideal relations on the frontal zone, which allows a precise intercuspitation of posterior teeth with diastema and with or without modifications of teeth

Clinical and technical advantages of lingualised occlusion

Through the vestibulo inclination of the lateral teeth of the jaw and through elimination of the occlusal contacts, cusps on cusps, we can realise the protection of the jugal mucosa.

were reduced to minimum the occlusal disharmonies that can result from registration errors of the jaws relations, modifications through polymerization and adaptation of the basis of the prosthesis.

- It simplifies assembly of prosthetic teeth, occlusal equilibration occlusal adjustment and subsequent proceedings
- The technical and biomechanical occlusal system are easy to understand
- Resin DCL (double-linked) was chosen for making teeth, having a exceptional resistance to abrasion. This is particularly important given the functional demands on the lingual cusps of the upper jaw.

lingualised occlusion (lingual contact) implant supported denture mobile the importance of modeling

of the occlusion as a key factor for the succes of prosthesis on implanted support was described by many authors . In particular, it is assumed that one can easily obtain and maintain osseointegration limiting lateral occlusal forces. For this reason it seems appropriate to choose a concept that minimizes occlusal and lateral forces while maintaining unchanged the patient's masticatory ability. The selection of prosthetic teeth play an important role in terms of the transmission of occlusal forces to the implants.

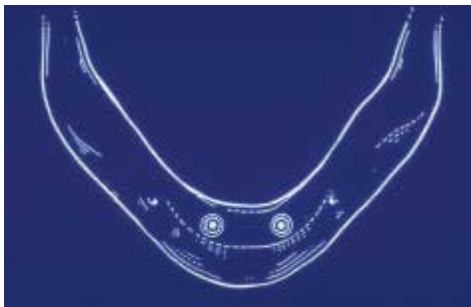


Fig. 5. prosthesis on implant support



Fig. 6 Prosthetic abutments

Advantages of lingualised occlusion (contact lingual) in the Overdenture implant support:

- The center position occlusal forces are unloaded on the vertical ridge and on the implant
- Movements during mastication forces are transmitted lingually on the crest
- This type of occlusion reduces the horizontal components of masticatory forces having the effect of long-term stabilization of the implant
- Deletes intercuspitation of anatomical dental forms , which often complicates fitting prosthetic teeth

DISCUSSION:

The concept of lingualised occlusion became the first hand on the occlusal scheme for mobile prosthesis and for implant's support, trying to minimalize the horizontal forces.

It is important to understand the forces during mastication and the way these forces interact. all these basic rules are valid ones even for prosthetic implants , over-prosthesis on natural roots or partial prosthesis.

Statistic provides information on oral health and appearance of the community dental service use in older people.

This study was done to assess the level of satisfaction of patients with removable dentures. So far, this study included 54 patients (35-82 years), in 2011-2013, who wore dentures. Of the 54-20 I met premature contacts, which I removed, at 23 I removed the parts working and nonworking interferences.

History data were collected from medical records of participants and stability of removable prostheses were evaluated by clinical examination. The criteria for evaluating stability prostheses were chosen according to the factors affecting the stability of the prosthesis. The total prosthesis that I made was using this new concept of " lingualised occlusion ". Patient's satisfaction with their prosthesis was assessed by a questionnaire, and then took the statistical study of graphs and tables which I followed: edentulous age, predominant type of chewing, masticatory efficiency, decubitus lesions evidenced by the presence of adjustment of the denture base, the type of installation from the point of view of the occlusal.

CONCLUSIONS

There are multiple advantages of the concept of lingualised occlusion:

Lingualised occlusion concept is easy to understand and learn, that is why is growing in popularity.

The technique provies teeth easy to mount and to equilibrate, without doing any sacrifices of functional or aesthetics parts.

The teeth used to provide a lingualised occlusion do not suffer any modifications through the process of functional abrasion, the patients benefit a long term functionality and excellent aesthetics.

This type of occulsion has improved the stability of the prosthetic work, has increased the efficiency and the

masticatory ability , decreasing the number of injuries post prosthetic

The lingualised occlusion can be used in many cases, including: total prosthesis for patients with a resorbed ridge or in those cases where we have a big discrepancy between the atrophy of the superior and inferior edentulous ridge , in the cases of prosthesis on implants where the transmission of forces is strictly done in the implantation direction, for skeletal prosthesis, and partial ones.

The conventional installing, through the existence of occlusal contacts of first and third class, the adjustment of the functional movements and propulsion and lateral ones is done with more difficulty , in comparison with the mounting of the lingualised occlusion where mounting and grinding is done faster and easier.

By increasing the masticatory capacity , the patients perceive an increase of the masticatory efficiency and disappear the food restrictions from the point of view of texture and hardness of aliments. This causes a positive influence which allows selection of a wide variety of foods.

This type of occlusion is much more manageable clinically because the number of contact points to be controlled is very much reduced.

In case of massive atrophy increases, prosthesis tend to lose stability during occlusal function. By using lingualised occlusion this phenomenon is reduced due to transmission shaft forces ridges, and with the interalveolar line

Lamellar ridges which should provide support of prosthesis will suffer a slow process of atrophy by using this occlusal type

Through the vestibularisation of the posterior frontal maxillary teeth in order to position the cusps of the third class in the middle of the edentulous ridge will remove the soft tissues , minimizing the injuries of the mucosa.

Total Prosthetics is a complete and complex field. Placing the patient, listening and empathizing with him and creating teams of medical, dental technician and patient can and we want to design prostheses that will restore functional aesthetic smile more desirable individualized ensuring integration into society. with experience and a well working flow well thought, the temporary effort can be well calculated, so we can debate the prejudice regarding the poor remuneration. in the end, the patients thank us with a satisfactory

smile. this is the "true beauty" of our work : to restore the quality of life and self confidence of people.

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